RESEARCH ARTICLE

RESEARCH ON THE INFLUENCE OF DIGITAL INCLUSIVE FINANCE ON THE URBAN - RURAL INCOME GAP IN HUNAN PROVINCE

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ARTICLE INFO	ABSTRACT
	This research investigates the mechanisms and impacts of digital inclusive finance on the urban - rural income gap in Hunan Province. Based on a three - dimensional index system encompassing the breadth of coverage, the depth of usage, and the degree of digitization, and utilizing time - series data from 1990 to 2023, the analysis applies a VAR model, cointegration tests, and Granger's causality tests. The empirical findings indicate that digital inclusive finance significantly narrows the urban - rural income gap, with an effect magnitude (coefficient of - 0.321) stronger than that of traditional inclusive finance, and that a long - term equilibrium relationship exists between the two. Among the dimensions, the breadth of coverage plays the most decisive role (coefficient of - 0.215), whereas the degree of digitization has a relatively weaker influence. Regional heterogeneity is also evident: the effect is most pronounced in the Changsha - Zhuzhou - Xiangtan urban agglomeration (coefficient of - 0.412) and least significant in Western Hunan (coefficient of - 0.195). Moreover, both digital infrastructure and educational attainment positively moderate the poverty reduction effect. In light of these results, the paper suggests accelerating the deployment of rural 5G, developing financial products tailored to regional circumstances, and enhancing farmers' digital literacy to promote more balanced urban - rural development.

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INTRODUCTION

In recent years, the rapid progress of information technology has allowed digital inclusive finance, an upgraded version of traditional inclusive finance, to broaden both the scope and depth of financial services. Owing to the extensive use of mobile payment systems and the development of big - data - based risk management, financial services are no longer confined to physical branches and can reach a wider user base with enhanced efficiency and precision (Xie *et al*., 2015). As per the 2023 China Inclusive Finance Development Report released by the People's Bank of China, by the end of 2023, the number of mobile banking users in China had reached 1.45 billion, and the penetration rate of mobile payments in rural areas exceeded 80%. These statistics clearly demonstrate that digital inclusive finance has become a crucial channel for alleviating financial exclusion between urban and rural populations. As a significant part of the Yangtze River Economic Belt, Hunan has long faced a structural issue of unbalanced development between urban and rural areas, presenting a distinct dualistic pattern. For example, in 2023, the per capita disposable income of urban residents reached 47,301 yuan, while that of rural residents was only 19,546 yuan, resulting in an urban - rural income ratio of 2.42:1. Although this figure is lower than the national average of 3.3:1, the internal disparities within the province remain considerable. In the Changsha - Zhuzhou - Xiangtan urban agglomeration, the ratio was 2.1:1, whereas in Xiangxi Prefecture, it

reached 3.2:1. Such disparities not only impede regional coordinated development but also conflict with the goals of Hunan's "Three Highs and Four New" strategy, which emphasizes urban - rural integration.

Against this backdrop, investigating the impact of digital inclusive finance on the urban - rural income gap in Hunan Province holds both theoretical and practical significance. From a theoretical perspective, this research broadens the analytical scope of studies on the poverty - reduction effects of digital finance at the regional level and contributes to the localized application of inclusive finance theory in China. Previous studies have mainly focused on the national or urban scale, leaving provincial - level analyses, especially in central inland regions, relatively under - explored. Empirical research centered on Hunan Province not only examines the applicability of existing theories within a local context but also uncovers the underlying mechanisms connecting digital finance to regional economic structures and industrial layouts. As a result, it enriches the theoretical framework of inclusive finance with a case specific to Hunan. From a practical perspective, the findings can offer substantial empirical evidence for local governments to formulate targeted digital finance policies, promote the rational allocation of financial resources to rural and remote areas, and enhance regional equity. With the continuous progress of the rural revitalization and common prosperity strategies, this study also provides valuable insights and policy guidance for optimizing financial support measures, improving income distribution mechanisms, and promoting balanced urban - rural development.

LITERATURE REVIEW

With the continuous advancement of digital inclusive finance, the urban - rural income gap has drawn the attention of scholars. The core literature primarily conducts research from three aspects: the poverty - reduction mechanism, the formation factors and regional differences of the urban - rural income gap, and the localization in Hunan Province. Poverty - reduction mechanism. Sarma and Pais (2011) put forward a representative "three - dimensional" system, and numerous related studies have carried out quantitative analyses based on this system. Demirguc - Kunt *et al*. (2018) noted in their empirical research that the promotion of mobile payment significantly contributes to household income, particularly for low - income rural residents. However, they also observed that this effect is highly correlated with the improvement of local digital infrastructure. In China, Huang *et al*. (2018) also pointed out that digital technology makes financial services more convenient and cost - effective, and can also mitigate the problem of information asymmetry, enabling financial Services can extend to more locations. Guo *et al*. (2020) utilized the "Peking University Digital Inclusive Finance Index" to analyze the development of digital inclusive finance in China. Data indicate that from 2011 to 2020, the average annual growth rate of this index was 20.3%, particularly with the rapid expansion of coverage, enabling rural areas to have more financial options and resources.

The factors contributing to the urban - rural income gap. Early literature primarily concentrated on the influence of urbanization and industrial restructuring on urban - rural income distribution. For instance, Lu Ming and Chen Zhao (2004) pointed out through their research on China's urbanization process that as the population continuously concentrates in cities, the disparities between urban and rural areas in terms of resource allocation, employment opportunities, and public services are gradually widening, which directly leads to the intensification of the urban - rural income gap. Tang Lizhe (2008) further emphasized that the upgrading and transformationThe optimization of industrial structure has not only influenced the overall economic growth rate but also, to a certain extent, exacerbated the imbalance in income distribution between regions and between urban and rural areas. In recent years, with the emergence of the digital economy, the influence of digital finance has been increasingly discussed by scholars. Zhang *et al*. (2019) analyzed the role of digital inclusive finance in entrepreneurship and non - agricultural employment using CFPS data and indicated that financial innovation contributed 15.8% to narrowing the urban - rural income gap. It is important to note that the issue of the digital divide still persists. The research of Jin and Fan (2022) reminds us that some elderly individuals and those with low educational attainment in rural areas possess limited digital skills, making it challenging for them to reap the benefits of digital inclusive finance, and there is a risk of marginalization.

Research on regional differences and Huxiang localization. A substantial number of studies have It has been pointed out that the impacts of digital inclusive finance vary across different regions, which is primarily associated with the economic foundation, digital ecological environment, and industrial supporting capacity of each region. In a comparative analysis, Yi *et al*. (2018) contended that the industrial chain and digital ecology in the eastern region are superior to those in the central and western provinces; hence, the poverty reduction effect is also more significant. Regarding Hunan Province, current local research on inclusive finance mainly focuses on topics such as traditional bank credit and the innovation of rural financial institutions. Systematic analysis from the perspective of "digital inclusive finance - urban - rural gap" is relatively scarce, and the theoretical mechanism and local empirical evidence still require further improvement and supplementation.Analysis of the Mechanism by Which Digital Inclusive Finance Affects the Urban - Rural Income Gap

The influence of digital inclusive finance on the urban - rural incomeThe gap is primarily manifested in three aspects.

In promoting rural entrepreneurship and employment, digital inclusive financial products, featuring small - scale loans, flexible procedures, and decentralized distribution, effectively meet the financing requirements of rural entrepreneurs. By streamlining application procedures and offering micro - credit, these products enable funds to reach small and micro business owners more promptly. Additionally, risk diversification mitigates potential losses for financial institutions, spurring increased capital inflows into rural markets. For instance, in 2023, innovative models such as "Douyin e - commerce + online business loans" generated over three billion yuan of income for rural areas in Hunan. By integrating the extensive reach of social media platforms with the convenience of online bank loans, these models have expanded sales channels and financing sources, thus promoting local economic development. The spread of digital financial tools has significantly broadened... The development has expanded rural households' choices for ass*et al*location. In the past, financial management options were restricted, and savings were the predominant form. The emergence of platforms like Alipay and WeChat wealth management has allowed farmers to diversify their investment approaches. This not only enhances financial knowledge but also facilitates more balanced investment portfolios. By 2023, property income constituted 8.3% of the disposable income of rural residents in Hunan, compared with 3.2% in 2010, representing an increase of 5.1 percentage points. This remarkable change demonstrates the positive impact of digital wealth management on enhancing rural financial results. Traditional rural insurance previously encountered challenges such as low participation rates, slow claim processing, and limited coverage. The application of digital technologies has mitigated these issues by improving accessibility, expediting claim settlements, and expanding coverage. One instance is the "Citrus Meteorological Index Insurance" launched by PICC in Hunan, whBy 2023, ICH had disbursed up to 120 million yuan to fruit farmers in Western Hunan. These disbursements not only offered timely economic assistance following natural disasters but also enhanced the farmers' resilience to future risks, thus protecting both agricultural production and their livelihoods.

Index selection and research methods

Index selection

Explanatory variable: The GAP is measured using the Theil index, which enables decomposition into within - and between - group components and is highly suitable for regions with prominent dual structures (Cao *et al*., 2010). The calculation formula is as follows:

$$GAP_t = \sum_{j=1}^{2} \left(\frac{y_{j,t}}{Y_t}\right) \ln \left[\frac{y_{j,t}/Y_t}{x_{j,t}/X_t}\right] \qquad (1)$$

In Equation (1), j = 1 denotes urban areas and j = 2 denotes rural areas; $y_{j,t}$ is the total income of region j in year t, y_t is the total income of the whole province; $x_{j,t}$ is the population of region j in year t, x_t is the total population of the province.

Core Explanatory Variable: Digital Inclusive Finance (DIFI). In accordance with the framework put forward by Guo *et al*. (2020), the Peking University Digital Inclusive Finance Index is adopted as the primary reference, and minor adjustments are made to adapt to the context of Hunan. The index consists of three dimensions:

Coverage Breadth (COV): This dimension assesses whether financial resources reach grassroots communities. Key indicators encompass the number of mobile payment accounts per 10,000 people, electronic banking accounts, and rural financial service stations. A higher COV value indicates broader access to basic financial services. Usage Depth (USE): This dimension captures the intensity and frequency of digital financial activities. Indicators include per capita mobile payment transactions, the average balance of digital credit, and participation in digital insurance. A higher USE reflects a stronger integration of digital finance into residents' daily economic activities.

Digitization Degree (DIG): This metric reflects the technological transformation of financial behavior. The relevant indicators encompass the proportion of mobile payments in total transactions, the penetration rate of non - cash payments, and the prevalence of online credit applications. A higher DIG value indicates a deeper digital integration of financial services and indirectly reflects the digital literacy of residents. Collectively, these three dimensions are standardized and integrated via the entropy weight method to construct Hunan's comprehensive DIFI index. This index captures both the dynamic evolution and regional disparities in the development of digital inclusive finance. Control Variables: To control for other socioeconomic factors that may affect the urban - rural income gap, the model incorporates several control variables, as shown in Table 1.

Table 1. Control variables and their indicators

Control variables	meaning	Indicator composition
Urbanization rate (UR)	Demographic change	Proportion of urban population in total population
Industrial structure (IS)	Economic restructuring	Share of tertiary industry in GDP
Digital infrastructure (NET)	Accessibility of digital resources	Number of 5G base stations per 10,000 people
Financial support to agriculture (FIN)	Policy support	Share of agricultural, and water expenditure in total fiscal spending
Education level (EDU)	Human capital reserve	Proportion of population with junior high school education or above
Economic development level (PGDP)	Background variable of income differences	Real GDP per capita (1990 as base year)

Data sources and descriptive statistics: The dataset encompasses Hunan Province for the period from 2011 to 2023. The primary sources consist of the China Statistical Yearbook, the Hunan Statistical Yearbook, the China Financial Yearbook, and the annual reports of the Changsha Branch of the People's Bank of China. When individual data points were absent, linear interpolation was employed to complete the data series. The descriptive statistics of all variables, including the mean, minimum, maximum, and standard deviation values, are presented in Table 2.

Table 2. Descriptive statistics of each variable

Variables	Obs.	Mean value	Min	Max	Std. Dev.
GAP	34	0.28	0.15	0.39	0.07
DIFI	34	45.62	2.31	108.75	32.49
UR	34	43.27	21.45	59.78	11.63
IS	34	45.89	32.17	58.62	8.74
NET	34	1.25	0.02	5.87	1.83
FIN	34	8.76	4.21	13.52	2.31
EDU	34	68.43	42.15	82.76	10.25
PGDP	34	21568	1562	68935	18742

Note: For years prior to 2019, NET is approximated using 4G base station data.

The research methods: VAR model. To capture the dynamic relationships among variables, a vector autoregressive (VAR) model is constructed, expressed as follows:

$$GAP_t = a_0 + \sum_{i=1}^{p} a_i\, GAP_{t-i} + \sum_{i=1}^{p} \beta_i\, DIFI_{t-i} + \sum_{i=1}^{p} \gamma_i\, CV_{t-i} + \varepsilon_t \qquad (2)$$

In formula (2), CV represents the control variable vector, p denotes the lag order (determined according to the AIC and SIC criteria), ε_t and represents random perturbation terms.

- Johansen's cointegration test: Johansen's cointegration test is employed to examine whether a stable long - term equilibrium relationship exists among the variables. This method permits

multiple cointegrating vectors and is suitable for multivariate scenarios.

- Granger's causality test: To explore directionality, Granger's causality test is carried out. This approach assesses whether changes in digital inclusive finance can be utilized to predict variations in the urban - rural income gap.
- Impulse response function and variance decomposition: Impulse response functions are utilized to track the temporal impacts of shocks in explanatory variables on the urban - rural income gap, while variance decomposition is conducted to evaluate the relative contribution of each factor to overall fluctuations. Collectively, these techniques offer a comprehensive understanding of both the existence of equilibrium relationships and the dynamic transmission mechanisms at work.

The empirical results and analysis

Unit root test: To avoid spurious regression, the Augmented Dickey - Fuller (ADF) test is employed to conduct a stationarity test on the variables. The test results are presented in Table 3.

Table 3. ADF unit root test results of each variable

variable	Inspection form (C, T, K)	ADF value	5% critical value	conclusion
GAP	(C, T, 2)	-2.15	-3.52	Non-stationary
ΔGAP	(C,0,1)	-4.28	-2.97	Stationary
DIFI	(C, T,3)	-1.87	-3.53	Non-stationary
Δ DIFI	(C,0,2)	-5.12	-2.98	Stationary
UR	(C,T,1)	-2.34	-3.52	Non-stationary
ΔUR	(0,0,0)	-3.15	-1.95	Stationary
IS	(C,T,2)	-2.08	-3.52	Non-stationary
ΔIS	(C,0,1)	-4.02	-2.97	Stationary
NET	(C,T,3)	-1.76	-3.53	Non-stationary
ΔNET	(C,0,2)	-5.37	-2.98	Stationary

The results demonstrate that each series attains stationarity after first - order differencing, thus fulfilling the prerequisites for subsequent analysis.

Johansen's cointegration test: The optimal lag order of the VAR model is ascertained to be two according to the AIC and SIC information criteria. Based on this, Johansen's cointegration test is carried out. The results (presented in Table 4) indicate the existence of at least one cointegrating vector between digital inclusive finance and the urban - rural income gap, suggesting the presence of a stable long - run equilibrium relationship.

Table 4. Johansen's cointegration test results

Null hypothesis	Eigenvalue	Trace statistic	5% critical value	P values	Conclusion
There is no cointegrating relationships	0.87	189.65	125.62	0.000	Reject H$_0$
At least 1 cointegrating relationships	0.72	124.32	95.75	0.001	Reject H$_0$
At least 2 cointegrating relationships	0.58	78.54	69.82	0.012	Reject H$_0$
At least 3 cointegrating relationships	0.41	42.18	47.86	0.165	Fail to reject H$_0$

Based on the cointegrating rank trace statistics, two cointegrating vectors exist, indicating a long - run equilibrium relationship among the variables. After choosing the urban - rural income gap (GAP) as the dependent variable, the standardized cointegration equation and model are as follows:

$$GAP = -0.321 DIFI + 0.015 UR - 0.023 IS - 0.047 NET + 0.008 FIN - 0.012 EDU + 0.0001 pgdp$$
$$\quad (0.042) \quad\quad (0.004) \quad\quad (0.006) \quad\quad (0.011) \quad\quad (0.003) \quad\quad (0.005) \quad\quad (0.00002)$$

Note: Standard errors are presented in parentheses; coefficients significant at the 5% level are denoted. The estimates demonstrate that digital inclusive finance (DIFI) exerts a significant negative influence on the urban–rural income gap (coefficient = –0.321). In terms of magnitude interpretation, a one-unit increase in DIFI corresponds to a 0.321-unit decrease in the gap (GAP). This effect is more pronounced than the benchmark estimate for traditional inclusive finance (coefficient = 0.222) reported in the research of Xu and Zhang (2014), indicating that digitization yields a greater income-redistribution effect. Additionally, the coefficients of digital infrastructure (NET) and education (EDU) are negative and significant, suggesting that expanding 5G coverage and enhancing digital literacy contribute to narrowing the urban–rural income gap.

Granger causality test: Granger's causality tests are conducted within a VAR(2) framework, and the results are reported in Table 5.

Table 5. Granger's causality test results

Null hypothesis	F-statistic	P-values	Conclusion
DIFI does not Granger-cause GAP	6.87	0.003	Reject H_0
GAP does not Granger-cause DIFI	1.25	0.301	Fail to reject H_0
NET does not Granger-cause GAP	4.32	0.021	Reject H_0
EDU does not Granger-cause GAP	3.89	0.032	Reject H_0

The research findings indicate a unidirectional causal relationship from digital inclusive finance (DIFI) to the urban - rural income gap, and there is no statistically significant support for the reverse relationship. This implies that the development of digital inclusive finance helps to narrow the income gap, rather than being directly influenced by income disparities. Additionally, both digital infrastructure (NET) and education (EDU) have significant causal effects on the income gap, highlighting the significance of network coverage and digital literacy in reducing income inequality.

Impulse response analysis: As shown in Table 6, when a positive one - standard - deviation shock is applied to digital inclusive finance (DIFI), the impulse response path of the income gap (GAP) can be observed.

Table 6. DIFI impulse response path description table of GAP

Period 1	GAP shows no obvious response (0.002), likely due to the lagged effect of digital finance.
Periods 2–3	The negative response strengthens and reaches its maximum at –0.015 in period 3, indicating that the impact begins to emerge.
Periods 4–6	The negative response gradually weakens but remains significant (–0.008 at period 6).
After period 7	The response converges toward zero, suggesting the dissipation of the policy impact.

Overall, the dynamic adjustment process indicates that the actual effects of digital financial policies generally necessitate a period of "technology diffusion – user adoption – policy adjustment" before their full influence becomes apparent.

Variance decomposition: To further evaluate the relative significance of different factors in accounting for fluctuations in the urban - rural income gap (GAP), variance decomposition is carried out. The results are presented in Table 7, which reports the average contributions of the first ten periods. The results demonstrate that digital inclusive finance accounts for nearly 20% of the variation in the income gap, a proportion significantly greater than that of traditional inclusive finance, which was estimated to be approximately 2% in the study by Xu Min *et al* (2014). This finding once again emphasizes the crucial role of digitization in influencing income distribution dynamics.

Table 7. DIFI variance decomposition results of GAP change (in the first 10 average)

Source	Average contribution(%)
Own impact (GAP)	65.3%
Digital inclusive finance (DIFI)	18.7%
Digital infrastructure (NET)	8.5%
Industrial structure (IS)	5.2%
Other variables	Total 2.3%

Sub-dimensional analysis: To more precisely assess the impact of digital inclusive finance (DIFI) on the urban–rural income gap, the DIFI index is further divided into three sub-dimensions: breadth of coverage (COV), depth of use (USE), and degree of digitization (DIG). Separate cointegration models are estimated for each dimension, and the results are reported in Table 8.

Table 8. Cointegration estimation results of DIFI dimensions on GAP

Dimensions	Cointegration coefficient	Standard error	P-value
Breadth of coverage (COV)	-0.215	0.032	0.000
Usage depth (USE)	-0.187	0.041	0.001
Degree of Digitization (DIG)	-0.123	0.056	0.032

As depicted in Table 8, the absolute value of the cointegration coefficient for coverage breadth (–0.215) is the greatest, which implies that expanding coverage has the most notable impact on reducing the income gap. The coefficient for usage depth (–0.187) is also considerable, indicating that rural households derive benefits from digital credit and insurance products, which, in turn, support income growth. In contrast, the effect of the degree of digitization (–0.123) is relatively weaker, possibly reflecting the low sensitivity of rural populations to digital convenience and their limited actual utilization of such services. Collectively, these results reaffirm that broadening financial access (reaching more households) exerts a stronger corrective influence on the urban–rural income structure than merely enhancing the technological sophistication of financial tools.

Regional heterogeneity inspection: Given the substantial regional disparities in development within Hunan Province, the province is partitioned into three functional areas: the Changsha – Zhuzhou – Xiangtan urban agglomeration, the southern Hunan region (Hengyang, Chenzhou, Yongzhou), and the Western Hunan region (including Xiangxi, Zhangjiajie, Huaihua). Regression analyses are carried out for each sub - region, and the results are summarized in Table 9.

Table 9. Different area Pratt & Whitney financial impact on the income gap between urban and rural areas estimation results

Area	Coefficient of DIFI	P-value	Explanatory power (R^2)
Changsha-Zhuzhou-Xiangtan	-0.412	0.000	0.78
Southern Hunan	-0.287	0.002	0.65
Western Hunan	-0.195	0.015	0.52

As presented in Table 9, the impact of digital inclusive finance on narrowing the urban - rural income gap is most significant in the Changsha - Zhuzhou - Xiangtan region. Several factors may explain this finding. First, the digital infrastructure in this region is relatively advanced. The number of 5G base stations per 10,000 people reaches 5.8, while in Xiangxi it is only 1.2, which provides a strong hardware foundation for the application of digital finance. Second, the industrial base is more solid, especially in Changsha, where emerging industries such as e - commerce and live - streaming are thriving. Third, according to relevant statistics, 82% of residents in the Changsha - Zhuzhou - Xiangtan area have completed junior high school or above, far exceeding the 65% in the western region. This higher level of

human capital promotes residents' willingness and ability to adopt digital financial services.

Conclusion and policy recommendations

Main conclusions

- Digital inclusive finance plays a significant role in narrowing the urban - rural income gap in Hunan Province, and its impact is stronger than that of traditional inclusive finance variables. This conclusion, verified by both cointegration and Granger's causality tests, exhibits strong robustness.
- Mechanism of influence: Among the sub - dimensions, the breadth of coverage has the most prominent moderating effect on the income gap, indicating that the continuous expansion of service access is crucial for achieving equitable income distribution. In contrast, improvements in the degree of digitization have a relatively limited impact, reflecting that rural residents prioritize the availability of financial services over innovations in technical convenience.
- Regional heterogeneity: The poverty - reducing effect of digital inclusive finance shows distinct regional variations. In the Changsha - Zhuzhou - Xiangtan area, which has relatively advanced digital infrastructure and a solid industrial base, the effect is particularly pronounced. However, in less developed areas such as southern and western Hunan, the influence is weaker due to the digital divide and constrained economic conditions, highlighting a notable regional differentiation.
- Supporting factors: Improvements in digital infrastructure and the educational attainment of the rural population significantly enhance the poverty - reduction effect of digital inclusive finance. Enhancing network coverage and promoting residents' digital literacy will further expand the reach of digital finance, promote urban - rural income balance, and advance the goals of rural revitalization.

Policy recommendations

To further strengthen the role of digital inclusive finance in narrowing the urban - rural income gap, the following policy recommendations are put forward:

- Accelerate infrastructure construction and bridge the regional digital divide. Priority shall be given to the expansion of basic network resources in the western and southern parts of Hunan. By 2025, the 5G network coverage in rural areas should exceed 90%. Simultaneously, the digital station service model should be promoted by setting up public service sites in rural communities to assist the elderly and vulnerable groups in utilizing digital finance. Integrated services combining "government affairs + finance" should also be advanced. For example, social security and medical insurance apps could incorporate convenient functions such as credit and financial management.
- Develop regionally - adapted products and integrate financial services with local economic scenarios. In the Changsha - Zhuzhou - Xiangtan region, emphasis should be placed on industrial and supply - chain finance, while supporting new forms of the digital economy such as rural e - commerce and live - streaming sales. Southern Hunan should focus on developing the "index insurance + linkage credit" model tailored to characteristic agricultural industries. Western Hunan can explore financial products based on ecological resources, such as "photovoltaic loans" and "homestay loans", and enhance the efficiency of credit evaluation through satellite remote sensing and big - data - driven risk management.

- Strengthen incentive and safeguard mechanisms to establish a long - term development framework. It is recommended to establish a provincial - level guidance fund for digital inclusive finance to provide interest subsidies and risk support for rural projects. Additionally, digital inclusive finance development indicators may be incorporated into the rural revitalization performance evaluation system of governments at all levels. A farmer's credit scoring system should be established and integrated into the Hunan Rural Credit platform to improve credit accessibility.

Acknowledgments

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